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THE CIRCULATION OF THE BLOOD.

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THE doctrine of Mrs. Willard, whether true or false, when first announced was comprised in a theorem of bold and definite outlines; and, as if abjuring all ambiguity, the declaration that "the chief motive power of the blood is in the lungs," which might have sufficed, was surmounted by another—"and not in the heart." So far, all is well, and well becomes the champion of a newly-discovered truth. But truths are more or less recondite; some requiring only to be presented to the mind of ordinary intelligence, to ensure belief; others demanding elaborate detail and reiterated illustration, to be made intelligible. To the latter class, the truth, of which Mrs. Willard claims to be the discoverer, evidently belongs.

The questions involved in this theory are of grave import; and I dissent from the opinion of one of the correspondents of the Journal, that, true or false, they can be of no use to practical medicine. Mrs. Willard is justified in her assertion, assuming her doctrine to be true, that "it may be made available, in innumerable cases, both for the preservation of health and the cure of disease." Unfortunately, however, for the cause of truth, there has been no small amount of temptation to meet the announcement of her discovery with badinage, rather than with argument. The pages of the Journal, in her own communications, no less than in those from Dr. Cartwright, furnish abundant material to illustrate what I mean. I might specify many examples; for instance, in a late number, she speaks of "the truth of the God of nature, for a season committed to her weak hands." A sore trial, I fear, to Dr. Hunt's continence; and I trust the publisher erased the passage from the doctor's copy. The well-trained and well-stored mind of the fair theorist would supply the appropriate comment at once, could she separate herself from her supposed discovery, and its anticipated halo. In regard to Dr. Cartwright, she might exclaim, "save me from my friends, and leave my enemies to me." I need only refer to former numbers of the Journal, for examples of indiscreet and premature laudation, so ineffably absurd and ridiculous, that we may well marvel whether, from Dr. Cartwright, it could have been anything less than irony.

Had Mrs. Willard published her discovery in any other terms than those implying veritable demonstration ; had she clothed it in the graceful garb of suggestion or inquiry—an appropriate costume, surely, for a lady on her first appearance in a department of science, which must have shared quite sparingly in the multifarious labors of her active life—she would have met with no repulse. Her own premature appropriation of the glories of her supposed discovery ; her unwarranted assumption, that the methods of resuscitation, and the art of preserving and restoring health by the agencies of exercise and pure air, now and long since understood and practised by every tyro in physic, were the results of her own discovery ; her audacity in claiming all these as her own timely gratuity to a world, just on the eve of suffocation—surely, these are no light provocatives ; and may at least palliate the discourtesies of some of the correspondents of the Journal. In my own professional career, I have served, as doubtless thousands have done before me, in the humble capacity of prompter to some scores of urchins, at their “entrance on the stage,” where their appropriate business was to “play their parts,” but who were doggedly bent on forgetting them. Having no tact at gentle persuasives, and no *meal* in my *mouth*, I have “blown them up” at once ; and candor compels me to confess, the malaperts have seldom failed to “give me as good as I sent.”

Such, I apprehend, are among the causes which have prevented Mrs. Willard's theory from receiving the notice, which it may possibly deserve from competent physiologists. But what is her theory ? It is noticeable that the phraseology of her “epitome,” contained in a late number of the Journal, is somewhat less clear and definite than her original theorem, which was, that “the chief motive power of the blood is in the lungs, and not in the heart.” In the “epitome,” it is thus modified—“the chief motive power of the blood originates in the lungs, in consequence of respiration.” Is the import of the first, identical with the last ? And does not her omission of the latter clause in her original theorem, “and not in the heart,” and her use of the phrase, “originates in the lungs,” as she has it in her “epitome,” savor of some embarrassment in adapting it to all the exigencies of the circulation ? If the epitome was intended to elucidate, and furnish an intelligible rationale of her doctrine, it is clearly a failure. It still remains a naked theorem ; a bare assertion that “the chief motive power of the blood is in the lungs, and not in the heart.” The “explanation,” contained in the epitome, “which she had some time felt to be necessary,” furnishes merely the assertion that “a portion of the water in the blood is there changed to vapor, and the volume of the blood becomes so expanded that it must move. At the capillaries, and in the veins, it is condensed by the effect of the external air.” This is the sum of her rationale of the circulation ; the consummating elucidation of “the truth of the God of nature, committed for a season to her weak hands.” Having thus finished her labor ; having given to physiology a new domain ; having taken formal possession, not in Ferdinand's, but in her own, name, I trust no Americus Vesputius will rob it of its appropriate designation, *Willardia*. Columbus, after exclusive devotion of himself, for a long

series of years, to the demonstration of his hypothesis, that a counter-balancing continent would be found in the west, indicated, as he thought, not only by general analogies, but by incidental evidence, "explained" his theory at last, by planting the feet of his incredulous followers on terra firma. "The mission which God has now crowned with success, was committed to *my hands* by Himself," was an exultation not only tolerated, but responded to by every intelligent and liberal mind. Did he indulge in this language, while inspecting the strange fragment of drift wood found on the shores of the East?

In justice to Mrs. Willard, however, ought we not to admit that she may have been the first to notice a fragment of *drift wood*, hitherto unobserved, on the field of physiology, and possibly of no small import in physiological research? I recollect nothing in the history of theorizing, on respiration and the circulation, which militates against her claim to originality in the suggestion, that the process of oxygenation and decarbonization of the blood, in the lungs, by the extrication of caloric, and the consequent expansion of its volume in the capillary vessels, may have an agency in the movement of the blood from the lungs, towards the left heart. If so, in all other regions, where aortic terminations and venous radicles are to be found, affording any facilities for the access of caloric, especially in the skin, this expansion may possibly contribute something, as "available" force, to capillary and venous circulation. This suggestion, or discovery, if it be substantiated, which is not impossible, is a creditable achievement, in which Mrs. Willard may justly feel complacency; and for which no *man*, "woman" though she be, may reproach her. The correspondents of the Journal have merely objected to the transformation of her islet, by her own mental mirage, into a mighty continent; to her hypothetical metastasis of the chief motive power; to her transfer of empire from Rome to Constantinople; and, especially, to her edict, that on her own theory, as on a pivot, the entire interests of humanity shall hereafter revolve!

It is certainly unfortunate that the clearness and definiteness of Mrs. Willard's theory have been much obscured, in her progressive postulations and "definitions of her position." Does she mean, by "motive power," veritable propulsive force; the *proximate* agency, by which momentum was imparted to "the stone from the brook," that smote the Philistine? This would be in accordance with her original theorem; "the chief motive power of the blood is in the lungs, and not in the heart." Or does she mean the *remote* causes, to be found in David's patriotism and allegiance to his Maker, prompting "in the same direction"? The latter has some adaptation to the theorem of the "epitome," which is thus worded—"the chief motive power of the blood originates in the lungs, in consequence of respiration." Although this variation in the form of her theorem contains no recantation, it admits of equivocation. Respect, however, for Mrs. Willard's consistency, as a philosopher, compels us to regard it as identical with the original.

Before considering the adaptation of Mrs. Willard's theory to the known principles of natural science, we should briefly advert to the settled opinions of physiologists, on the circulation of the blood. The

heart, then, is regarded as the efficient agent, which propels its contents, by the contraction of the muscular walls constituting its ventricles ; from the left, through the aorta and its branches, to the whole body ; from the right, through the pulmonary arteries, to the lungs. The structure, size, firmness, position and relations of this organ, seem to fit it perfectly for the office assigned to it ; and we look in vain for any other point in the circulation, which may furnish the indispensable facilities required, as a seat of any adequate amount of motive power. All the predecessors of Mrs. Willard, since the days of Harvey, have agreed in this, that the contraction of the ventricles of the heart is the chief propulsive power of the blood. Many have supposed that the *diastole*, no less than the *systole* of the heart, has an important agency in the circulation. The plenitude of rich material, and the highly wrought structure of the heart, must furnish it with the elements of great power ; and it is demonstrable that its relations are so adjusted that it may act in a direction to *dilate* the ventricles. The fact having been established, that the *systole* and *diastole* of the living heart may continue, for a limited time, independently of the influx of any fluid, the inference is unavoidable that the *diastole* is not a *passive* result. Consequently, just in proportion to the power of the muscular action of the heart, effecting dilatation of its cavities, where a vacuum can only be averted by the influx of blood, will be the atmospheric pressure ; operating on the vascular system by propelling its contents, “ directed by the valvular system,” into the dilating cavities ; the heart, by a double function, thus propelling the blood through the arteries, by its *systole*, and imbibing it from the veins by its *diastole*.

Generally, the arteries have been regarded as exerting a small degree of propulsive force, both by the properties of contractility and elasticity appertaining to their coats. There can be no doubt of the fact, that these properties have an agency in adapting the calibre of the arteries, to the varying quantities of blood, expelled by each *systole* of the heart ; thus indirectly, at least, co-operating with the force of the heart. Physiologists, however, have been divided in their opinions, on the subject of capillary and venous circulation ; some regarding both these portions of the vascular system as capable of propelling their contents, independently of the heart’s action ; others making them equally passive with the arteries ; while others, I think with good reason, claim, both for capillaries and veins, the power of co-operation with the heart, in circulating their own contents. The fact, well authenticated, that a fluid injected into the aorta of the dead body, by moderate force, may be driven through the double capillary system of the intestines and liver, and be made to flow out of the veins in full stream, is sufficiently conclusive to show, that, in the living subject, the action of the heart might suffice to propel the blood through the whole circuit of arteries, capillaries and veins.

Much speculation has been indulged, in regard to certain attractive forces, or affinities, supposed to co-operate in effecting circulation ; such as the mutual affinities between the carbon in the contents of the pulmonary arteries, and the oxygen in the air-cells ; and in the other extremity, the attraction of the tissues to be repaired, for the nutritive ele-

ments contained in the aortic terminations. Nevertheless, the doctrines of physiologists on the subject of the circulation, as commonly received and understood, claiming that the chief motive power of the blood is in the heart, are in harmony with the laws of natural science, and admit of an intelligible rationale.

The action of the heart being thus claimed by her predecessors, as the chief motive power of the blood, effecting circulation by a process which has been clearly explained, and is well understood, Mrs. Willard claims that "the chief motive power of the blood is in the lungs, and not in the heart"; and in her "epitome," has added, by way of "explanation," that "a portion of the water in the blood is there changed to vapor, and the volume of the blood becomes so expanded that it must move." If the motive power of the blood be in the lungs, it must have some point, or basis of propulsive action; and this basis must be the pulmonary tissue. The effective force is claimed by Mrs. Willard, to be expansion of the volume of the blood, by caloric; the capillaries of the lungs constituting, of necessity, the boilers where this expansion is effected. Being no "mechanician," but a "mere mechanic," I feel some timidity in suggesting the inquiry, whether "action and re-action" may not be as "equal" in physiology, as in mechanics? If so, the pulmonary tissue being the seat of the expansive force, which is to propel a mass of blood, weighing probably more than thirty pounds, and the portion of fluid, to be expanded in the lungs, being contained in vessels of small calibre, with coats of extreme tenuity; and these vessels being embedded in a congeries of mere air-cells, also of extreme tenuity; the thirty pounds of blood requiring to be urged onward with an impetus that may overcome formidable obstacles in every direction; what will be the effect of this expansive force on the vascular and cellular tissues of the lungs? Do these tissues afford an adequate base, for sustaining the re-action of all this propulsive power? It may be fancy—but but my own perceptions are teeming with frightful visions of bursting boilers, and gushing crimson!

What is the rationale of Mrs. Willard's process? Notwithstanding the "epitome," she leaves us to *contrive* the answer. Is it moved from the pulmonary capillaries, to the opposite system of aortic terminations, by the process of evaporation; "where it is condensed by the effect of the external air," and returned to its starting point, like the dribbling of the pot-lid, into the boiling vortex below? Or do the successive portions of blood, heated in the capillaries of the lungs, make their way in serial order, through the denser mass which occupies the heart and large vessels? But here, a formidable obstacle, in the law of gravitation, is interposed, in the fact that the position of the different portions of the blood, in relation to each other, would render such interchange of occupancy impossible. Will a fluid *rise* through a medium less dense than itself; or *fall* through one more dense? Admit the possibility that position might interpose no obstacle to its progress, to the cavities of the left heart; to the arch of the aorta; would it plunge through the descending aorta, and the femoral arteries, to the pedal extremities? If so, it must be in violation of the laws of gravitation, to which the blood

of the living body, in the relations of its different portions to each other, is no less amenable than the turbid waters of the Mississippi. Does "caloric," by rarefying the capillary portion, propel the aggregated columns of blood, contained in the entire vascular system, onward in its circuit, like the agency of exploding powder in the breech of the musket? Then, manifestly, to say nothing of the inappropriate material constituting the barrel, nor of the complex disproportions of its calibre—the breech should not be made of sponge-cake! If the blood had neither weight nor dimension, like hypothetical nervous fluid, or were resolvable into a medley of partialities and antipathies, possibly we might construct a "piece of apparatus," with complications of positive and negative poles, that would elucidate the misty rationale of Mrs. Willard's theory. Unfortunately, the blood has palpable materialism, and abounds in downright heaviness. Dead or alive, it has no active mood, but is utterly passive. It will not move, though it may be moved. The motive power must appertain to the lever, and not to the weight; to the pack-horse, and not to the burden.

The *burden* of the ponderous flood, which fills and sustains the solid organism of the living body; which scales acclivities with impetuous rush, and bursts its inclosures, if an impediment interposes in its path, is no transcendental sublimation, to be wafted on the wing of a butterfly, or to be urged onward, in solid columns, by motive impotence. For what other purpose was the solid brawn of the heart provided in such munificence; and wherefore its transcendently elaborate organization? "That its beat might be made available force, in the same direction"—that it might add its little quota of impulse to the *vis a tergo* of a musquito's blow-pipe! Shade of Harvey!!

[To be continued.]

FOREIGN CORRESPONDENCE—LETTER FROM PARIS.

MESSRS. EDITORS,—I had contemplated preparing some remarks upon the pathology and treatment of uterine diseases; as many of the European hospitals, as well as some private cliniques, offer to the medical observer extensive opportunities for the investigation of this class of affections. But my time, to-day, will not permit me to investigate this subject so thoroughly as I would like; consequently I will endeavor to give you a few facts upon various subjects, so that, out of them all, there may be found something from which a practical thought may be deduced.

In my last, I think I mentioned that cholera had commenced its work at Paris. At this date it has nearly disappeared; in fact, for the last four weeks, but a very few cases have occurred. There have been about 1000 cases, and one half have died. The treatment has varied in different hands—from activity to a "*master inactivity*"; yet no specific is found. M. Gendrin, *à la Pitié*, says that bleeding, even in the stage of collapse, is the only rational way to treat cholera, as by so doing you restore an equilibrium in the blood, by removing the red corpuscles to a

certain extent, for the serous portion, he says, has already been largely thrown off—hence harmony is sought. So much for the bleeding theory.

Since the discovery of albumina in the urine of women attacked with eclampsia, much has been written to determine if the phenomena of this frightful malady has any connection with a lesion of the kidneys. The question has been resolved, sometimes in the affirmative and sometimes in the negative. M. H. Braun, of Vienna, has published a work somewhat extended upon this subject, in which he has analyzed a great number of facts; and as statistics are worth something, when reliable, I am induced to give the substance of some of his results. Upon 52 cases of convulsions observed in 24000 accouchements, the cause can be attributed twice to hysteria, four times to epilepsy anterior, once to capillary apoplexia, once to the absorption of charcoal vapor, and forty-four times to uremic intoxication, the consequence of Bright's disease. Hysterical and epileptic convulsions exercise no evil influence upon the progress of pregnancy or the life of the fœtus; they do not provoke premature labor, nor are accompanied with albuminaria or œdema. During the puerperal state these convulsions do not give place to coma or other accidents; they are repeated during a time more or less long, even after the puerperal state, without producing any danger to the life of the mother. Convulsions, caused in the sixth month of pregnancy, by capillary apoplexia, determine the death of the mother before labor is ended; the urine contains no albumina, but a great quantity of phosphates.

The convulsions, which had for their cause the absorption of the vapor of charcoal, with the aid of medication resulted in no way disastrous to the mother or child.

Convulsions determined by uremia were manifest twelve times during pregnancy, before the appearance of labor or any modification of the os uteri; eleven times they appeared in the period of dilatation of the os, ten times in the period of expulsion, three times after the confinement, and eight times during the sequel of terminated labor. In 7 cases of acute Bright's disease there were neither convulsions nor uremic intoxication. Among the eclamptic women, 38 were primipares, 6 only multipares; 15 aged 20 years; 17 from 20 to 25; 7 from 25 to 30; 5 from 30 to 40. Ten times eclampsia occasioned premature labor; in the other cases pregnancy nearly attained its normal term. It was the same in 11 patients attacked with eclampsia at an epoch posterior to the confinement.

In all of the 44 cases of eclampsia, the examination of the urine by the use of nitric acid revealed the presence of albumina, in general, in considerable quantity. Upon these 44 cases, 24 times only the convulsions coincided with labor. Upon these 44 women attacked with uremia, 30 were cured; and 14 died, 9 during the convulsions, 5 with ulterior puerperal accidents. Of the 9 women who succumbed during the convulsions, one only presented cerebral capillary apoplexy; in all the others was observed some anemia and œdema of the brain, even in those who had not been submitted to sanguine emissions. The kidneys presented sometimes manifest characters of fatty infiltration and of atrophy, often only a hyperemia more or less great.

Influence of Eclampsia on the Life of the Mother and the Child.—The women attacked by eclampsia gave birth 31 times to living infants, 13 times to stillborn. The epoch of pregnancy to which these accidents were manifest, seemed to have its greater influence upon the life of the mother and the child. Thus—upon 12 women attacked with eclampsia before the commencement of labor, 5 only were cured; 2 died of puerperal fever, 5 during the convulsions; they gave birth 9 times to children stillborn, and 3 times only to living.

One can conclude from these statistic results, that the greater the difficulty of expelling the fœtus from the uterus at the moment of the convulsions, the more the danger of uremic accidents being augmented for the mother and the child. Upon 11 women attacked by uremia during the period of dilatation, 7 were cured and 2 succumbed during the convulsions in the puerperal state; 7 times these women gave birth to living children. All the 10 women attacked with eclampsia during the period of expulsion had living children and were cured; 3 women, attacked with eclampsia after confinement, were equally cured, and the children continued to enjoy good health. Upon 8 cases of eclampsia supervening in the puerperal state, 5 were cured, 2 died in the convulsions, and the other in consequence of puerperal fever.

The proportions of mortality in those attacked with uremia were as follows. In general :: 1 : 5; during pregnancy :: 1 : 2½; during the period of dilatation :: 1 : 5½; in the period of expulsion :: 1 : 10; in the period that follows accouchement :: 1 : 5½. The women attacked with eclampsia died three times oftener of puerperal accidents than those who had had a normal confinement.

The mortality of children born of mothers attacked by uremia was in general :: 1 : 3½. When the accidents of uremia supervened in the mother during pregnancy, the mortality of the children was :: 1 : 1½; accidents supervening during the period of dilatation the mortality was :: 1 : 3; in the period of expulsion and after the termination of labor :: 1 : 10. We see from this that the child is much more exposed when it remains a longer time in connection with the uremic blood of the mother, and that it takes a longer time to be expelled from the uterine cavity.

Of 44 women attacked, 11 were bled, and among these last 5 succumbed. On the contrary, of 33 on whom no sanguine emission was practised, 9 only died. Four times some urea and some carbonate of ammonia were found in the blood extracted from the vein. The mortality was then in the women bled as 1 : 2½; those which were not :: 1 : 4; but, it should be added, that it is not always in the worst cases that phlebotomy is employed. Nine times they had recourse to expectant treatment, with small doses of tart. ant., cold applications to the head, or some leeches to the mastoid apophyses. The mortality in these cases, was ¼. Whenever, notwithstanding this treatment, the convulsions augmented, opium or acetate of morphia was administered. Seven times chloroform was inhaled. In all these cases the mother and child were saved.

The author also gives a *resumé* of the statistics in the cases where

surgical operations were resorted to, in order to hasten delivery ; but these results offer nothing new.

At the union of the *Société de Chirurgie* on the 11th of January, M. Chassaignac read an interesting paper upon *acute sub-periostic abscesses*, the conclusion of which is not without a practical interest :—

1. Infancy and scrofulous diathesis constitute a notable predisposition to acute sub-periostic abscesses.

2. The inferior members are specially predisposed to this kind of disease.

3. Among the causes of acute sub-periostic abscesses, ought to be mentioned :—1, hereditary rheumatism ; 2, habitations in humid localities ; 3, external blows ; 4, a strong moral commotion ; 5, excessive and disproportioned fatigue to the age of the patient ; 6, the critical epoch of eruptive fevers ; 7, a sudden suppression of suppuration in fistulous tracts, maintained by a diseased bone.

4. In acute sub-periostic abscesses, pain precedes all other symptoms, even fever. This pain is excessive, deep, analogous to that of severe paronychia. It gives to the patient the sensation of an impending fracture. It is subject to nocturnal exacerbations.

5. Sub-periostic abscesses are not accompanied with any alteration of the skin.

6. In acute sub-periostic abscesses of the femur, the disease always commences by the inferior half of the bone.

7. In these abscesses the tumor is fluctuating and forms a body with the bone.

8. The means to perceive fluctuation in sub-periostic abscesses of the thigh consists in seizing the member with both hands, and in exercising alternate pressure in an opposed sense.

9. The pus of these acute sub-periostic abscesses presents oil globules.

10. In acute sub-periostic abscesses, there is more or less constantly superficial necrosis of the bone upon which the abscess exists ; the sequestrum which results can disappear either by re-absorption or by cellular elimination.

11. In acute sub-periostic abscesses, in whatever place they may be, the contiguous articulations to the affected bone, preserve almost always their integrity, whilst in *osteo-myélite* they are ordinarily attacked.

12. Sub-periostic abscesses are distinguished clinically from diffused phlegmoid :—1, by the absence of a base ; 2, by the existence of circumscribed fluctuation ; 3, by the localization of swelling upon a bone in particular, compared to the diffused tumefaction of phlegmoid ; 4, by the special character of the pain.

13. The first indication in the treatment of acute sub-periostic abscesses, is to incise promptly and largely down upon the *foyer* of the abscess.

14. Certain sub-periostic abscesses demand, from necessity, the employment of a contra-overture.

15. In the treatment of acute sub-periostic abscesses, frequent cleansing, canules and the perforated seton, are useful auxiliaries against putridity ; douches of hydrochloric acid, in the proportion of 2-1000, hasten the disappearance of the sequestra.

16. Sub-periosteal abscesses can give an indication of amputation ; may be primitively, by reason of the local disturbance, or consecutively, when they become a cause of constitutional depression.

17. The employment of mercurial preparations is contra-indicated when these abscesses supervene in young and scrofulous subjects.

I have been much pleased with this surgeon's treatment of mammary abscesses. Whatever may be the locality of the abscess, superficial or sub-cutaneous, the profound or deep-seated, or the glandular, the treatment alike has its beneficial results. We find the gland more subject to this troublesome malady, in pregnant women, those recently confined, and nurses. From its anatomical structure we can readily understand how one or several lobules of this gland may be attacked at the same time. M. Chassaignac treats an abscess in the following manner. If pus is formed, notwithstanding the efforts to avoid it by combating the inflammation which precedes, the abscess is opened to give it exit. A short incision is made, from one half to an inch and a half. The abscess should be incised early, as soon as fluctuation is perceived. The pus is a foreign body, and should be treated as such. He applies exhausting cups to withdraw as much of it as possible. Then with an irrigator, a small stream of warm water is carried into the foyer of the abscess, for several minutes ; then the cups are re-applied, and then the irrigation ; thus alternating, till the pus globules are all washed out of the incised foyer. The abscess, thus cleansed of all its purulent particles, may be treated as an incised wound, and be made to unite by first intention ; thereby saving the patient not only time, but much suffering, from the continued discharge of purulent matter and the destruction of the tissue of the gland as well as their concomitant accidents.

One week in the month of January, M. Maisonneuve, at Hôpital Cochin, performed twice an operation which, he says, has never before been done upon the human subject. Whether this is true or not, I am unable to say ; but I think it has not been done in Europe. The operation, which is simple, consists in uniting the small and large intestines, in case of obstruction, so that a new route may be established for the passage of the fecal contents. This surgeon has reflected some time upon this method, and various others, to see if there was not some way whereby a certain class of patients might have the benefit of an operation in the hope that life might be prolonged. Among this class may be found persons who have been submitted to the operation for strangulated hernia, and where sphacelus has attacked the portion of intestine contained in the sac to such an extent that it is not prudent to return it till the gangrenous portions have sloughed away. Again, when hernia has been reduced by the taxis, but from some cause or other the bowels refuse to act, notwithstanding the intervention of purgatives or applications to allay any inflammation that may exist in the portion of intestine which has been forced out of the abdominal cavity. Finally, in any intestinal adhesion, or in any case where there is obstruction in the digestive tube. To surmount these difficulties, it is proposed, as before said, to establish a new communication.

M. Maisonneuve has performed this operation many times upon dogs,

by strangulating a portion of the intestine and uniting a portion above and below the point of strangulation, with complete success. But it must be taken into account, that upon dogs it is almost impossible to provoke peritonitis, however much the peritoneum may be mutilated,

Both of the patients upon whom this operation was made, died. One was in a moribund state when submitted to the knife, and the powers of the other were much enfeebled; so that they do not present fair specimens for a trial of the surgeon's skill. As I saw them, I will give some account of the operation.

The first patient was a man aged about 50. He came into the Hospital with inguinal hernia, which was reduced by the taxis; but he continued several days without having any stools, notwithstanding the efforts to free the bowels. With this state of things, M. Maisonneuve thought he would put into practice his long-contemplated operation. Accordingly the patient was placed upon the back, being a little inclined to the left side, and an incision was made in the abdominal parietes, from five to six inches in length, on a line with the body, just above the crest of the ileum. The cœcum was sought as a fixed rallying point of departure. Then a portion of the intestine above the stricture, which can be easily recognized as being distended with fecal matter, was attained; also a fold below. These were then brought together and placed parallel to each other. The superior portion was incised, with a pair of scissors, the length of six inches, and the distended parts above carefully emptied of their contents. The lower fold was incised in like manner, but the bowel contained nothing to be disgorge. These tubes lying side by side—their internal walls were united by a simple suture—the serous surfaces being in contact, something like the seam of a garment before it has been pressed. Then the external walls of each tube were brought together by turning the incised edges inward—so that the serous surfaces, as before, should be in juxtaposition—and united by a suture armed with two needles. Thus the free margins and the serous surfaces were in proximity, so that agglutination might take place with facility. This being done, the intestines were returned, and the external incision dressed in the ordinary manner. The patient lived seven days. The fifth day he had free evacuations, whether from the new or old route I cannot say, but he finally sunk from peritonitis.

The second patient was a man who entered the Hospital with strangulated hernia, of eight days' duration. The abdomen around the hernial tumor presented a yellowish taint, showing that evidently there was already sphacelus in the constricted intestine. The operation for hernia was made, and the bowel was found too gangrenous to be returned into the abdomen, but was opened to give exit to a large amount of fecal matter, liquid, &c., and left in the incision. Two days after, the patient having had no discharge, and being almost in a state of collapse, the same operation as mentioned above was performed, but without any particular hope of success.

Notwithstanding these unfavorable results, I presume M. Maisonneuve will make other trials, when cases present themselves. The philosophy

of this operation is simple, and it may lead to some beneficial results. Supposing the obstruction of the intestine should exist, and the operation should succeed, the patient's life might be prolonged by this new communication established in the intestinal tube. Or should the latter be successful, and the impediment be removed by the efforts of art or nature, the patient would be favored with two routes for the circulation of the fecal contents. Thus man is not content to annihilate distance in the external world—but it must be *done within himself*. There might arise a physiological question, that if the fecal contents should pass mostly through the new opening, thereby shortening the length of the digestive tube, whether there would or would not be a deficiency in the nutrient absorption.

[To be Continued.]

SMALLPOX IN BELFAST, ME.—VACCINATION AND RE-VACCINATION.

[Communicated for the Boston Medical and Surgical Journal.]

Messrs. Editors,—An article in a late number of this Journal reminded me of a promise made last summer to one of the editors, to communicate some facts in connection with the occurrence of smallpox in this city. One circumstance is worthy of mention, as a wholesome caution to practitioners. One of the younger physicians of the place, Dr. J. G. Brooks, who, as it happened, was invited by me the attending physician to see some cases of the disease, the first of the kind occurring here for several years, was employed by the authorities to perform vaccination in the schools, and for poor persons wishing it done at the public expense; and during the progress of, and while engaged in the vaccinations, was taken down with the disease in a modified form—the eruption coming on the next day or two after vaccinating in one of the schools. This opens up the matter of vaccination and re-vaccination. Several observations have been made by me, viz., that persons who had taken the disease in the modified form, also those who were affected from a re-vaccination, that is, had an apparently perfect pustule in consequence, had also a large vaccine mark on the arm, or a larger one than the average size. On the other part, it was observed that persons who by severe tests had remained protected, had only a very small vaccine mark, and that from a vaccination from twenty to fifty years before. Again, some members of families on being vaccinated, older members of which families had had the disease naturally in so mild a form as to leave no scarring, were slightly affected. My inference is, that those persons who are much affected by vaccination have a peculiar susceptibility to smallpox. So that we may not prudently say, “you have a fine large mark on your arm, and are safe enough,” but rather be more suspicious of such. It is probably now the received opinion, at least it is given as my opinion from a large number of observations, that any person may be protected entirely and permanently, by a sufficient number of vaccinations—that is, by repeating the process till it will have no further effect. As a matter of course, if the disease itself does not always protect against its return, a single vaccination may not always.

Another thing in relation to this disease, has still more interested me. In several instances, and at different periods in professional life, the opportunity has been afforded me to have charge of a considerable number of cases of it after its inception, from seven to ten days before eruption took place. In every case, by a thorough course of reducing to a bread and water diet, as far as practicable, and moderate saline purgatives, the result has been a remarkably mild form of the disease; so much so, that in a few cases of delicate young lady adults, perhaps as much or more likely than usual to be thus successfully influenced, the pustules were reduced to only five or six upon the whole visible parts of the body, and these leaving no scars, or none that could properly be called pits.

Belfast, Me., March 9, 1854.

Yours truly,

ALBERT T. WHEELLOCK, M.D.

RUPTURE OF THE HEART.

[Communicated for the Boston Medical and Surgical Journal.]

AN instance of this comparatively rare occurrence took place in Derry, N. H., on the 28th of Feb. last. The patient was Mr. B., a highly-respected farmer, aged 69, and the history of the case is as follows:—

For several years past he has been laboring under an increasing dyspnoea, aggravated by excitement or over-exertion, with occasional attacks of partial syncope. The severity of these symptoms was not such as to induce him to seek medical advice until February 15th, when on rising from his bed he was suddenly seized with severe pain in the epigastric region, faintness and great prostration. These symptoms continued unabated until evening, when, in the absence from town of his family physician, he got an emetic. This augmented the epigastric distress, and gave him a very uncomfortable night. After the nausea had subsided he was able to walk about, and to attend to his domestic concerns, although the local pain and weakness still continued.

On the morning of the 25th, he was again attacked with violent distress, referred to the region directly under and a little to the left of the xyphoid cartilage. This distress continued, accompanied by nausea and great dyspnoea, until his death. A very marked feature in the case was a constant sensation of fear that the slightest emotion or excitement on his part would be followed by immediate death. The physical indications were ambiguous. A careful inspection of the chest revealed no unnatural condition; no change of shape was observable in the cardiac region. No cardiac impulse could be discovered, and the valvular click was with difficulty perceived. The heart was evidently in its usual location, and had become the seat of some serious disturbance. The arteries of the upper extremity were throughout affected by that calcareous deposit which is so common in aged persons; but here it was so developed as to completely prevent the radial pulsations from being enumerated. Indeed, recourse was had to auscultation over the epigastrium, in order to number the pulsations of the abdominal aorta. And here a peculiar feature revealed itself. A loud whistling friction sound, en-

tirely unnatural, was heard. The pulse was for the most part 120, and intermittent. Added to these results, the right lung gave dulness on percussion, and the vesicular respiration was obscure. There was, however, no cough, no pain in the lungs, and no expectoration.

Diagnosis.—From the history of the case, in connection with the rational and physical signs, the conclusion was that the aortic valves, previously the location of organic disease, had recently become the seat of sudden and more extended lesion; that there was an effusion into the pericardium and right pleura, and that the aorta was the seat of cretaceous depositions.

The treatment which was adopted was accordingly palliative. After the operation of a mild laxative, anodynes were administered to allay the nausea; ice was freely taken by the mouth, and irritation was produced over the epigastrium.

Death.—About 4 o'clock on the morning of the 28th, after a quiet sleep of some twenty minutes, he raised his hands to his chest and instantly expired. The character of his death was such as to warrant an examination, in order to discover what sudden lesion had occurred, and what was the condition of the parts.

Autopsia, thirty-two hours after death. An examination was had of the thorax and abdomen. On opening the thorax, the most conspicuous organ was the pericardium, enormously distended. An effusion of sixteen ounces filled the right pleuritic cavity. Slight adhesions of the right lung to the costal surface existed. The lungs were perfectly healthy. The pericardium was filled with coagulated blood, together with serum, indicating previous effusion. On examining the heart, a rupture of an inch in length was discovered in the left ventricle, midway between the apex and aortic valves, and parallel to the fleshy columns. A section of the heart showed marked fatty degeneration in the vicinity of the rupture, and a microscopic examination confirmed the fact. About midway in the thickness of the ventricular wall a sinus was found, extending to the depth of nearly an inch entirely around the rupture, indicating that before the final rupture, and after the giving way of the fleshy columns, a proper cordal aneurism had existed. The aortic valves normal; the aortic sinus greatly enlarged, and cretaceous deposits were found in the vicinity of the valves.

The stomach and abdominal viscera presented their usual appearance.

E. L. GRIFFIN, M.D.

Derry, N. H., March 13, 1854.

CASE OF TWINS—A FULL-GROWN AND A BLIGHTED FŒTUS.

[Communicated for the Boston Medical and Surgical Journal.]

Messrs. Editors,—In looking over my notes, I find a case which I think may be of some interest, and which I send for you to do with as you may think proper.

March 25th, 1850, while on a professional visit some twelve miles from home, and in a neighboring town, I was, casually, called in to see a

Mrs. ———, aged 34 years, mother of five children, and between four and five months pregnant the sixth time. At this time she was sick with a bilious remittent fever. I prescribed for her, and on account of the distance, and being out of my own neighborhood, I heard nothing more from her until the fifteenth day of the following August, when I was requested to visit her again. Saw her at 3 o'clock, P. M. Said she had been in labor about twelve hours. Her pains were strong, and at regular intervals of about ten minutes, which soon delivered her of a full-grown, living and healthy-looking female child. The pains continuing strong and expulsive, the child was soon separated from the mother and passed to an attendant; and on making a manual examination I discovered what appeared to be a small fœtus presenting, which was expelled in about twenty minutes, and proved to be a dead male fœtus, bearing the marks of four and a half or five months, in a perfect state of preservation, with skin shrivelled; but sound and firm. A large double placenta soon followed, with two cords attached, at about four inches from each other.

I give you the case without comment, leaving that for yourselves, or others.

Yours truly,

ELIJAH A. DAGGETT, M.D.

Waldoboro', Me., March 15, 1854.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MARCH 22, 1854.

Instrument for Cauterization of the Larynx.—We find a communication from Dr. J. G. Adams, of New York, now in Paris, in the pages of the *Gazette Hebdomadaire*, of that city, under date of Jan. 27, 1854. We are indebted to Dr. Adams for a copy of the *Gazette*, and present our readers with the following translation of the article alluded to.

"MR. EDITOR,—Through the kind introduction of M. Robert, I had the honor of presenting to the Surgical Society, at its session of the 4th December, 1853, a specimen of a tri-branched sponge-holder, the exact counterpart, *in form*, of those in general use at present in New York, with the additions of Dr. Buck, surgeon of the New York City Hospital, and the further improvements of M. Charriere, Jr. Permit me to say a few words respecting the historical and practical details of the same.

"It has been a disputed question, to whom the merit of the invention of this instrument is to be awarded, and likewise to whom belongs the priority of its use in the laryngeal cavity. After careful and conscientious research, I find that the first idea of such an instrument was conceived by Dr. David Green, for the purpose of applying a solution of nitrate of silver to the larynx, pharynx, and œsophagus. He at first made use of a male catheter, to which a piece of sponge was fastened by a thread. After several experiments, he at last adopted a whalebone stem, curved to the segment of a circle at its extremity, to which a sponge was attached, with strong twine or wire. One inconvenience attended this instrument; the twine or wire became worn or corroded in a short time, and consequently the possibility that the sponge might become detached. Should such a thing occur whilst cauterizing the larynx, a fatal accident would be the consequence. Besides, it

was necessary to have a great number of instruments, in order to avoid using the same sponge for different patients. To obviate these difficulties, Dr. Buck attached to the stem a pair of silver nippers, provided with a sliding ring which secured the sponge. Recently, having had occasion to order an instrument with Dr. B.'s addition, M. Charriere, Jr. suggested that it would add to the utility and perfection of the instrument by making the nippers with three jaws; that it would hold the sponge better, and preclude the possibility of its becoming disengaged. In the instrument thus constructed, one of the jaws is furnished with a stopping-peg, over which a compressing ring passes, by the aid of a notch (as in the bayonet). When the ring is placed over the rest, it is made to take a half turn; it cannot then possibly fall back, and the sponge is secured in the firmest manner.

"As regards the first person who made use of such an instrument for applying caustic solutions to the larynx, Dr. Horace Green, of New York, asserts, in the introduction to his work on Bronchitis, that in 1841, two years previous to the publication of the English translation of the works of MM. Trousseau and Belloc, he was accustomed to use cauterization to the larynx; but the practice of MM. Trousseau and Belloc was known long prior to that time in America, for Prof. J. M. Smith mentions it in his lectures delivered at the University of New York, in 1828.

"The possibility of introducing the sponge into the larynx has been doubted in France. I have, however, thrice proved its feasibility in the clearest manner. Dr. Green goes much further, and affirms he had penetrated *into the trachea to its bifurcation*, and that with comparative ease. It is my duty to repeat the assertion. Yours, &c. &c.

JOHN G. ADAMS,

Late Secretary of the Academy of Medicine of N. York, and Ex-Editor of the Med. Times."

Medical Ethics—Massachusetts Medical Society.—The spirit, if not the letter of the by-laws of the Massachusetts Medical Society is frequently broken by its members, and yet no notice is taken of it by the proper officers. If the Society enact laws for the regulation and government of its members, they should be religiously adhered to; but if violated, prompt measures should at once be adopted to bring the offending member before his peers for trial. We have charity enough for those who sin through ignorance of the laws; but when there is abundant evidence that ignorance cannot be urged as an excuse, our feelings are somewhat changed. There is a by-law of the Society, prohibiting a member from "publicly advertising for sale, or otherwise offering to the public, any medicine, the composition of which he keeps a secret;" yet it is violated by members in preparing and advertising some nostrum, and by others in recommending it over their signature. We cannot see the justice of prosecuting or ejecting a member for the breach of a by-law, and allowing another member to violate another law, and still retain his fellowship. If the objects for which this ancient and honored Society was formed, are to be perpetuated, let us have its regulations and laws duly observed, and *any* infringement of them by its members promptly attended to.

New Orleans Medical News and Hospital Gazette.—The first number of the "New Orleans Medical News and Hospital Gazette" has been received, and is placed upon our list of exchanges. It is to be published twice a month, at \$3 a year, by Drs. Chopping, Beard, Schlater and Boyer, of the

"Charity Hospital," who are its editors and proprietors. One of the chief objects for establishing this Journal, the editors say, "will be to give a voice to the great hospital of the country, not allowing it to dwell forever in the silence of its own walls, but earnestly endeavoring to make its constantly recurring topics of interest, heard by the profession at large." We wish our confrères success in their new undertaking.

Mesmerism in Hemorrhage.—A paragraph is going the rounds of the newspaper press, relative to a very remarkable "cure" alleged to have been performed by a mesmeric doctor upon a patient in a neighboring city. It is said that the patient had a tooth extracted, and it was found impossible to arrest the hemorrhage, although *seven physicians* had been called in and exhausted their skill in the attempt. But finally a *mesmeric doctor* from this city was sent for, and by placing his hands upon the temples of the patient, the blood ceased running, to the admiration and astonishment of those who were present. We know not how much truth there is in the statement; it may be the story was manufactured for the sole purpose of advertising and bringing the mesmeric doctor into notoriety: but there are many who are ready to believe it, and therefore we should be pleased to have one of the *seven physicians* send us the facts of the case, which we will cheerfully publish in our next issue.

New Medical Journal.—The first number of a Medical Journal, called "The Middle States Medical Reformer, and Advocate of Innocuous Medication," has been received. It is published at Dover, Del., by Drs. Prettyman and John (editors and proprietors), and, like many other so called reform Journals, is intended no doubt as a means of carrying on a crusade against the "regulars." We wish the editors and proprietors all the success that the work may deserve, and congratulate them upon their discovery that "*medicine is a demonstrated and positive science.*"

A correspondent, well known for his zealous efforts in the field of vital statistics, favors us with the following remarks on the first fruits of the new registry law in Kentucky, to which we have before alluded in the Journal.

Registration of Births, Marriages and Deaths in Kentucky, for the year 1852.—This is the first annual Report on the subject just submitted to the Legislature of Kentucky, in compliance with a law of that State which is somewhat similar to the Registration Law of Massachusetts. It comprises 112 pages, well filled with material of the greatest importance to the citizens of that State, and is not without interest to science and philanthropy elsewhere. The State Auditor, under whose authority it was made, states, in his preface—"As this is an entirely new measure in our State, considerable difficulties and imperfections were anticipated in getting the law into operation. It is the more gratifying, therefore, that I am enabled to say that, although there are many imperfections, and gross negligence, yet, altogether, the enterprise thus far has been eminently successful—it is believed much more successful than in any other State during the first year."

Some dozen or more States have now registration laws, and we are glad to learn by this Report, that the subject is actually in successful operation west of the Alleghanies. The Legislature of Tennessee has recently moved in the matter, but with what result we have not learned.

The Report was made under the superintendence of Wm. L. Sutton, M.D., President of the Medical Society of Kentucky; and it shows the population of that State to be (in 1850) 985,405: of which, 764,688 were white, and 220,717 were colored. The aggregate population is, therefore, about the same as that of Massachusetts. There were 25,906 births reported during the year, which are equal to 1 in every 38 inhabitants. The marriages numbered 7,430, showing 1 to every 103 white persons in the State. Over 52 per cent. of the males married under 25 years of age, and more than 42 per cent. of the females married under 20 years of age. Sixteen males and two females were over 70 when they married.

There were 13,048 deaths reported. As in Massachusetts, the greatest mortality occurred in the months of August and September. We notice, also, the unusual fact, that more than half of all the deaths were from epidemic, endemic and contagious diseases. There were 12 persons who died over 100 years old, the oldest being a white female at the age of 110. The proportion of deaths from consumption is only about half as great as it is in our own State.

The report, as a whole, shows a very promising beginning, and reflects much credit on Dr. Sutton. We shall look with interest for future reports from Kentucky, as we are fully confident the law will be strongly supported as its merits become known.

J. C.

Penobscot Co. (Me.) Medical Association.—The physicians of Bangor and the County of Penobscot assembled in Bangor, on Wednesday, March 8th, 1854, and adopted a constitution, by-laws and code of ethics, and established a medical society called "The Penobscot County Medical Association." In compliance with the provisions of the constitution, they elected the following officers:—

Dr. Hosea Rich, Bangor, *President*.

Dr. James C. Bradbury, Old Town, *1st Vice President*.

Dr. John Benson, Newport, *2d Vice President*.

Dr. Wm. H. Brown, Bangor, *Recording Secretary*.

Dr. James C. Weston, Bangor, *Corresponding Secretary*.

Dr. Charles Alexander, Orono, *Treasurer*.

Drs. I. P. Dickinson of Bangor, H. N. Page of Brewer, W. H. Allen of Orono, P. M. Fisher of Corinna, S. Laughton of Bangor, *Standing Committee*.

JAMES C. WESTON, *Secretary*.

The Beard Movement.—The article on the beard, published in No. 1 of this volume of the Journal, has been copied very extensively into the public papers, and has contributed much to the interest which the subject is now exciting. In England much attention seems to be likewise attracted to it, as the following item of intelligence will show.

"The beard movement in England is one of the most rapid on record, even in these fast times. The Daily News strongly recommends the clergy to abandon smooth shaving, and return to the manly and majestic beard as worn by the glorious reformers of the sixteenth century. It says nothing would be a surer preventive of clergyman's sore throat than for nature's covering to supersede cravats. Rev. Peter Barlow, incumbent of Cockfield, has acted on the advice. Some of his people were so highly offended at this resemblance to Cranmer and Latimer, that they left the

church. The great body of the congregation, however, were sensible enough to remain."

Medical Miscellany.—The jury of inquest upon the body of Dr. Gardiner, came to the conclusion that his death was caused by taking a large dose of strychnine.—Dr. P. H. Morris, one of the aldermen in the city of New York, died in an apoplectic fit last week.—Rheumatic affections are quite prevalent in this city.—Dr. Wolfred Nelson, the mayor elect of Montreal, has had a chequered life. At one time during the Canadian rebellion he was taken prisoner, and came near being torn in pieces by the infuriated mob of loyalists.—Dr. W. F. Channing, of this city, made an able speech before a committee of the Massachusetts Legislature, in behalf of the abolition of the death penalty.—A sailor on board of one of the ships lying in our harbor recently fell from the cross-trees to the deck, a distance of *eighty feet*, without producing any injury to himself.—Mr. N. A. Apollonio has been elected City Registrar of Boston, by both branches of the City Government. He is a gentleman eminently qualified for the office, and it affords us much pleasure to chronicle his election. His predecessor, Artemas Simonds, Esq., who has filled the office in a most acceptable manner, declined a re-election.—The Geneva (New York) Medical College has been re-organized, and a session of lectures will be commenced in October next.

Suffolk District Medical Society.—The monthly meeting of this Society, for Medical Improvement, will be held at their room in Phillips Place, on Saturday evening next, at 7 1-2 o'clock.

ERRATUM—The following note from Dr. Bowditch refers to the figures used by him on page 71 of this volume of the Journal.

"Please correct an error into which I inadvertently fell, in my remarks on paracentesis thoracis. I should have said that in *nine* of the fifty operations performed upon twenty-five individuals, either 'a few drops' of fluid or 'nothing' was obtained. It should be remembered, however, that in not a single one of these cases of failure to obtain fluid, did any unpleasant result happen.

Yours, &c.,

HENRY I. BOWDITCH."

TO CORRESPONDENTS.—In addition to the communications acknowledged last week, and which will be inserted as soon as space can be obtained, we have received two on the Circulation of the Blood, and one descriptive of a case of pneumonia and ruptured diaphragm in a horse. The publication of the former must be delayed at least till the one by Dr. Chandler, commenced in to-day's Journal, is finished. So much space has already been given to this subject, it is considered unnecessary that anything further upon it should present the matter in a clearer light, or add something, by way of fact or argument, to the views already published.—A note from Dr. C. G. Page, of Washington, D. C., accompanied with a pamphlet, entitled "*Psychomancy*," has been received, and will be attended to.

MARRIED.—Dr. R. H. Coolidge, U. S. A., to Miss H. R. Ringold.

DIED.—In Boston, George Cheyne Shattuck, M.D., 70, an eminent medical practitioner, and a high-minded, benevolent, useful citizen, whose death is greatly deplored. He was reputed to be the wealthiest physician in the New England States.—At Richmond Island, Me., Dr. Stephen Cummings, 62.—At Medford, Mass., Dr. Milan G. Carey, 32.

Deaths in Boston for the week ending Saturday noon, March 13th, 94. Males. 51—females, 43. Bronchitis, 1—inflammation of the brain, 1—disease of the brain, 1—burns and scalds, 2—consumption, 16—convulsions, 3—cholera infantum, 1—croup, 4—cyanosis, 1—dysentery, 1—diarrhea, 2—dropsy, 1—dropsy in the head, 6—debility, 3—infantile diseases, 5—puerperal, 1—typhoid fever, 1—scarlet fever, 3—hooping cough, 3—disease of the heart, 2—intemperance, 1—inflammation of the lungs, 15—congestion of the lungs, 1—marasmus, 2—measles, 5—old age, 3—palsy, 1—smallpox, 1—scrofula, 1—disease of the spine, 1—teething, 2—worms, 1—unknown, 1.

Under 5 years, 50—between 5 and 20 years, 7—between 20 and 40 years, 19—between 40 and 60 years, 11—above 60 years, 7. Born in the United States, 75—Ireland, 16—British Provinces, 2—Germany, 1.

Table of Deaths in Boston, for the year 1853, from Weekly Reports as published in this Journal.

DISEASES.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Abscess	1	1	1	1	1	1	1	1	1	1	1	1	12
Accidental	4	3	1	7	4	5	7	10	7	10	7	8	64
Anæmia	1	2	3	2	3	1	2	2	2	2	2	3	24
Apoplexy	1	2	3	2	3	1	2	3	2	2	2	3	24
Asthma	1	2	3	2	3	1	2	3	2	2	2	3	24
Bladder, disease of	1	2	3	2	3	1	2	3	2	2	2	3	24
Bowels,	1	2	3	2	3	1	2	3	2	2	2	3	24
Do. inflammat'n and congest'n of	3	7	3	4	2	7	23	13	10	12	3	7	84
Do. strangulation of	2	5	6	15	7	8	11	11	11	5	7	9	97
Brain, congest. and inflammat'n of	1	1	1	5	2	5	7	6	7	2	3	2	49
Do. disease of	1	1	1	5	2	5	7	6	7	2	3	2	49
Bright's disease	1	1	1	5	2	5	7	6	7	2	3	2	49
Bronchitis	1	1	1	5	2	5	7	6	7	2	3	2	49
Burns and scalds	3	1	4	4	1	1	3	4	1	1	4	3	27
Calculus and gravel	1	1	1	1	1	1	1	1	1	1	1	1	12
Cancer	1	2	2	6	1	3	2	3	1	1	1	1	22
Chicken pox	1	1	1	1	1	1	1	1	1	1	1	1	12
Cholera infantum	1	1	1	1	1	1	1	1	1	1	1	1	12
Cholera morbus	1	1	1	1	1	1	1	1	1	1	1	1	12
Colic	1	1	1	1	1	1	1	1	1	1	1	1	12
Consumption	58	72	50	72	62	48	64	40	46	68	59	90	729
Convulsions	11	7	4	11	12	11	13	12	9	15	10	7	122
Croup	25	17	23	20	12	8	6	3	3	21	13	33	184
Cyanosis	1	1	1	1	1	1	1	1	1	1	1	1	12
Debility and exhaustion	1	1	1	1	1	1	1	1	1	1	1	1	12
Diabetes	1	1	1	1	1	1	1	1	1	1	1	1	12
Diarrhea	1	1	1	1	1	1	1	1	1	1	1	1	12
Dropsy	7	6	5	11	3	1	7	5	6	8	9	8	76
Drowned	4	1	1	1	4	2	12	28	28	36	9	1	136
Dysentery	1	1	1	1	1	1	1	1	1	1	1	1	12
Epilepsy	1	1	1	1	1	1	1	1	1	1	1	1	12
Erysipelas	6	3	2	3	2	2	3	2	3	3	2	2	31
Fever	1	3	1	1	3	1	2	1	1	3	1	1	14
Do. bilious	1	3	1	1	3	1	2	1	1	3	1	1	14
Do. intermittent	1	3	1	1	3	1	2	1	1	3	1	1	14
Do. scarlet	53	48	23	26	21	21	8	2	1	10	7	7	228
Do. typhoid	3	3	2	5	4	4	3	6	10	9	7	7	63
Do. typhus	3	3	4	4	2	1	4	2	6	7	5	6	47
Fractures	1	1	1	1	1	1	1	1	1	1	1	1	12
Fracture of skull	1	1	1	1	1	1	1	1	1	1	1	1	12
Gangrene	1	1	1	1	1	1	1	1	1	1	1	1	12
Gout	1	1	1	1	1	1	1	1	1	1	1	1	12
Do. Rheumatic	1	1	1	1	1	1	1	1	1	1	1	1	12
Hæmorrhage	1	2	2	2	1	2	2	2	2	4	4	4	24
Hæmorrhoids	1	2	2	2	1	2	2	2	2	4	4	4	24
Head, dropsy in	13	9	14	22	18	12	14	17	9	11	8	9	156
Heart, disease of	7	8	10	6	7	6	6	10	3	4	1	1	84
Hernia	1	1	1	1	1	1	1	1	1	1	1	1	12
Hip disease	1	1	1	1	1	1	1	1	1	1	1	1	12
Homicide	2	2	1	1	1	1	1	2	2	1	1	1	11
Hooping cough	3	21	8	6	6	1	8	7	4	4	3	6	64
Infantile diseases	31	21	26	37	22	13	38	32	24	25	20	23	312
Inflammation	1	1	1	1	1	1	1	1	1	1	1	1	12
Influenza	1	1	1	1	1	1	1	1	1	1	1	1	12
Intemperance	3	1	2	4	2	3	4	2	1	4	1	1	27
Kidney, disease of	2	3	1	1	1	1	1	1	1	1	1	1	12
Laryngitis	2	2	3	3	2	1	2	2	4	1	4	3	31
Liver, disease of	7	1	1	1	1	1	1	1	1	1	1	1	12
Lungs, congestion of	2	2	3	3	2	1	2	2	4	1	4	3	31
Do. inflammation of	21	25	25	44	21	14	13	8	10	19	21	29	250
Mania	1	1	1	1	1	1	1	1	1	1	1	1	12
Marasmus	10	10	6	10	13	12	19	12	12	11	6	8	129
Measles	2	1	1	1	1	1	1	1	1	1	1	1	12
Neuralgia	1	1	1	1	1	1	1	1	1	1	1	1	12
Old age	5	5	11	14	7	1	11	9	6	4	1	3	95
Palsy	4	1	4	4	4	5	8	3	5	4	1	3	46
Paralysis	1	1	1	1	1	1	1	1	1	1	1	1	12
Peritonitis	1	2	2	2	2	2	2	2	2	2	2	2	24
Pleurisy	3	3	2	3	3	2	1	2	6	6	3	3	34
Poison	1	1	1	1	1	1	1	1	1	1	1	1	12
Do. by gas in cess pool	1	1	1	1	1	1	1	1	1	1	1	1	12
Puerperal diseases	3	5	4	6	8	5	5	4	3	7	5	4	59
Purpura	1	1	1	1	1	1	1	1	1	1	1	1	12
Rheumatism	1	3	2	1	1	1	1	1	1	1	1	1	12
Scrofula	1	2	3	1	3	1	3	2	1	4	1	2	22
Scurvy	1	1	1	1	1	1	1	1	1	1	1	1	12
Skin, diseases of	1	1	1	1	1	1	1	1	1	1	1	1	12
Smallpox	1	1	1	1	1	1	1	1	1	1	1	1	12
Spine, disease of	1	1	1	1	1	1	1	1	1	1	1	1	12
Stomach, inflammation of	1	1	1	1	1	1	1	1	1	1	1	1	12
Suffocation	1	1	1	1	1	1	1	1	1	1	1	1	12
Suicide	1	1	1	1	1	1	1	1	1	1	1	1	12
Stroke	1	1	1	1	1	1	1	1	1	1	1	1	12
Syphilis	1	1	1	1	1	1	1	1	1	1	1	1	12
Teething	4	8	15	12	7	6	20	33	42	27	7	11	192
Throat disease	1	1	1	1	1	1	1	1	1	1	1	1	12
Thrush	1	1	1	1	1	1	1	1	1	1	1	1	12
Tumor	1	1	1	1	1	1	1	1	1	1	1	1	12
Ulcer	1	1	1	1	1	1	1	1	1	1	1	1	12
Unknown	2	1	1	1	1	1	1	1	1	1	1	1	12
Worms	1	1	1	1	1	1	1	1	1	1	1	1	12